

Stanton

August 20, 1987

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Antelope Lake Creel Census - 1986

Anglers at Antelope Lake were censused on 31 days between April 26 and September 30, 1986. Anglers were interviewed from shore and boat with survey effort concentrated on the shore near Antelope Dam. Surveyors recorded the number of anglers for each party, county of residence, hours fished, number and species of fish caught, and the length (to the nearest 1/2 cm fork length) for each fish.

Antelope Lake is open all year to fishing; however, the creel census was limited to the highest use period. On seven days of this period, use counts were conducted one to four times a day either from the dam or by boat. The counts were totaled, averaged, and multiplied by estimated daylight hours for each day; then multiplied by the number of days in the period in order to estimate total angler-hours of use. Historically, this area has particularly high use over Memorial Day weekend. This period was calculated separately and included in the total estimate. Total angler-days were estimated by dividing total angler-hours by the mean length of completed angler-days. Estimates of catch were based on catch per hour rates from the creel census data and total angler-hours.

A total of 460 anglers were interviewed. They had fished 1,066.5 hours and caught 103 rainbow trout (0.10 per hour), 292 brown bullhead (0.27 per hour), 4 brown trout, 2 bluegill, and one golden shiner. The rainbow trout ranged in length from 18 cm to 38 cm (7.1 in to 15.0 in), with a mean length of 31 cm (12.2 in) (Appendix I). Brown bullhead ranged in length from 20 cm to 25 cm (7.9 in to 9.8 in), with a mean length of 22.5 cm (8.9 in). Brown trout measured from 28.5 cm to 57 cm (11.2 in to 22.4 in).

Shore anglers numbered 333. They had fished 786 hours, catching 63 rainbow trout (0.08 per hour), 248 brown bullhead (0.32 per hour), 3 brown trout, and one golden shiner (Table 1). Mean length of rainbow trout caught by shore anglers was 31 cm (12.2 in). The brown trout measured 28.5 cm, 30.5 cm, and 57 cm (11.2 in, 12.0 in, and 22.4 in). Shore anglers also reported catching, or catching and releasing, 87 brown bullhead, 2 largemouth bass, and one rainbow trout.

Boat anglers numbered 127 and had fished 280.5 hours, catching 40 rainbow trout (0.14 per hour), 44 brown bullhead (0.16 per hour), 2 bluegill, and one brown trout (Table 2). Mean length of rainbow trout for boat anglers was 31 cm (12.2 in). The brown trout measured 29.5 cm (11.6 in). No measurement was taken on the bluegill. Boat anglers also reported catching, or catching and releasing, 9 brown bullhead, 7 rainbow trout, and 2 largemouth bass.

Thirty-three interviewed anglers had completed their fishing efforts for the day, catching 19 rainbow trout in 115 hours. They fished for an average of 3.5 hours and caught 0.17 trout per hour (0.60 trout per angler-day). Thirteen of these anglers had fished from the shore. Averaging 3.0 hours of fishing, they caught 0.18 trout per hour (0.54 trout per angler-day). The 20 boat anglers fished for an average 3.8 hours and caught 0.16 trout per hour (0.61 trout per day).

Mean lengths of rainbow trout caught by shore anglers and boat anglers were the same; however, the mode for shore-caught fish was 31.0 cm to 31.5 cm (12.2 in to 12.4 in), while boat-caught fish were bimodal at 25.5 cm (10.0 in) and 33.0 cm (13.0 in). The larger trout taken by boat anglers were caught early in the season (before the end of May) and smaller fish were mostly caught later in the season.

Anglers came from 32 counties and from out of state. The majority were from local counties (50 percent), the Sacramento Valley (20 percent), and the San Francisco Bay area (11 percent) (Table 3 and Figure 1).

An estimated 84,000 hours (25,000 angler-days) of angling occurred between April 26, 1986 and September 30, 1986. Shore anglers and boat anglers each fished about 42,000 hours. Shore anglers caught an estimated 3,400 rainbow trout, 13,300 brown bullhead, and 150 brown trout. Boat anglers caught an estimated 6,000 rainbow trout, 6,500 brown bullhead, and 150 brown trout. Overall use at Antelope Lake may have been reduced due to flood damage and subsequent repair of Highway 70, which was closed until July 4, and then only open periodically all summer and fall.

Compared to previous years (1978-80, 1983-84) (Tables 4 and 5), 1986 had the lowest catch per hour of rainbow trout, but the largest fish. Catch per hour of brown bullhead by boat anglers increased from zero in 1978 to 0.16 in 1986, and from 0.01 to 0.25 for shore anglers in the same period. The 0.25 figure is less than 1983 but about the same as 1984.

In 1986, anglers caught more than two times as many brown bullhead and other warmwater fish as trout. The total weight of the brown bullhead was about 6,500 lbs, and the trout weighed about 6,200 lbs. In addition, the Department of Fish and Game trapped and removed about 21,000 lbs of brown bullhead. No largemouth or smallmouth bass were observed in the creel census, although anglers reported catching 4 largemouth bass.

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The sharply reduced catch and larger average size of trout caught in 1986 seems clearly related to reduced stocking of trout in recent years (Table 6), while trapping brown bullhead seems to have resulted in larger average size for that species.

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TABLE 1

ANTELOPE LAKE, 1986
SUMMARY OF CATCH PER HOUR

Shore Anglers

Date	Anglers	Angler Hours	Rainbow Trout Caught	Catch/ Hour	Other Fish ^{1/} Caught	Catch/ Hour
04-26-86	32	87.75	10	-	54 BB	-
04-27-86	15	45	3	-	0	-
Total	47	132.75	13	.098	54 BB	0.407
05-02-86	11	23	3	-	4 BB	-
05-09-86	15	23.75	2	-	0	-
05-10-86	19	30.25	2	-	6 BB, 1 BN	-
05-13-86	5	13.75	2	-	0	-
05-18-86	2	2	1	-	30 BB	-
05-24-86	6	4	0	-	2 BB	-
05-26-86	21	53.25	1	-	5 BB	-
Total	79	150	11	0.073	47 BB 1 BN	0.313 0.007
06-03-86	8	13	0	-	0	-
06-04-86	7	9.25	0	-	0	-
06-08-86	1	2	0	-	0	-
06-17-86	15	51.5	7	-	1 BN, 1 BB	-
06-21-86	6	17.75	1	-	0	-
06-27-86	8	9.75	1	-	1 BN	-
Total	45	103.25	9	0.087	2 BN 1 BB	0.019 0.010
07-02-86	12	31	7	-	0	-
07-05-86	17	20.75	3	-	0	-
07-13-86	10	74	9	-	0	-
07-18-86	14	34.5	2	-	1 BB	-
07-25-86	12	28	0	-	37 BB	-
07-26-86	21	47.75	1	-	1 BB	-
07-28-86	21	49	3	-	1 BB	-
Total	107	285	25	0.088	40 BB	0.140
08-06-86	2	3	0	-	0	-
08-14-86	15	30.5	0	-	58 BB, 1 GSH	-
08-17-86	3	5.25	0	-	0	-
Total	20	38.75	0	0.000	58 BB 1 GSH	1.50 0.026
09-01-86	2	7.5	0	-	0	-
09-07-86	15	42.25	1	-	31 BB	-
09-14-86	8	20	2	-	17 BB	-
Total	25	69.75	3	0.043	48 BB	0.688
10-21-86	2	2	0	0.000	0	0.000
11-01-86	8	4.5	2	0.444	0	0.000
Season Total	333	786	63	0.080	248 BB 3 BN 1 GSH	0.316 0.004 0.001

^{1/} BB - brown bullhead, BN - brown trout, GSH - golden shiner.

TABLE 2

ANTELOPE LAKE, 1986
SUMMARY OF CATCH PER HOUR

Boat Anglers

Date	Anglers	Angler Hours	Rainbow Trout Caught	Catch/ Hour	Other Fish ^{1/} / Caught	Catch/ Hour
04-26-86	22	23	7	0.304	0	0.000
05-02-86	4	19	8	-	0	-
05-09-86	3	12.75	1	-	1 BN	-
05-13-86	3	11.25	2	-	0	-
05-18-86	6	30	0	-	0	-
05-24-86	37	73	8	-	7 BB	-
05-26-86	3	9	1	-	0	-
Total	56	155	20	0.129	1 BN 7 BB	0.006 0.045
06-04-86	1	2	0	-	0	-
06-17-86	13	28	2	-	0	-
Total	14	30	2	0.067	0	0.000
07-25-86	13	16.5	11	-	10 BB	-
07-26-86	4	7	0	-	0	-
Total	17	23.5	11	0.468	10 BB	0.426
08-06-86	2	12	0	-	0	-
08-14-86	8	9.5	0	-	7 BB	-
08-17-86	2	2	0	-	0	-
Total	12	23.5	0	0.000	7 BB	0.298
09-07-86	6	25.5	0	0.000	20 BB	0.784
Season Total	127	280.5	40	0.143	2 BG 1 BN 44 BB 2 BG	0.078 0.004 0.157 0.007

^{1/} BB - brown bullhead, BN - brown trout, BG - bluegill.

TABLE 3

ANTELOPE LAKE, 1986
ANGLER RESIDENCE SUMMARY

<u>County of Residence</u>	<u>Number</u>	<u>Percent</u>
Alameda	4	0.9
Butte	24	5.4
Colusa	2	0.4
Contra Costa	8	1.8
El Dorado	3	0.7
Glenn	14	3.2
Kern	2	0.4
Lake	4	0.9
Lassen	163	36.7
Los Angeles	11	2.5
Marin	2	0.4
Mendocino	9	2.0
Modoc	2	0.4
Monterey	2	0.4
Napa	8	1.8
Placer	6	1.4
Plumas	54	12.2
Riverside	6	1.4
Sacramento	22	5.0
San Bernardino	2	0.4
San Diego	1	0.2
San Joaquin	20	4.5
San Mateo	4	0.9
Santa Clara	13	2.9
Santa Cruz	3	0.7
Shasta	11	2.5
Solano	8	1.8
Sonoma	4	0.9
Sutter	2	0.4
Tehama	2	0.4
Yolo	3	0.7
Yuba	6	1.4
Out-of-State	<u>19</u>	<u>4.3</u>
Total	444	100.0

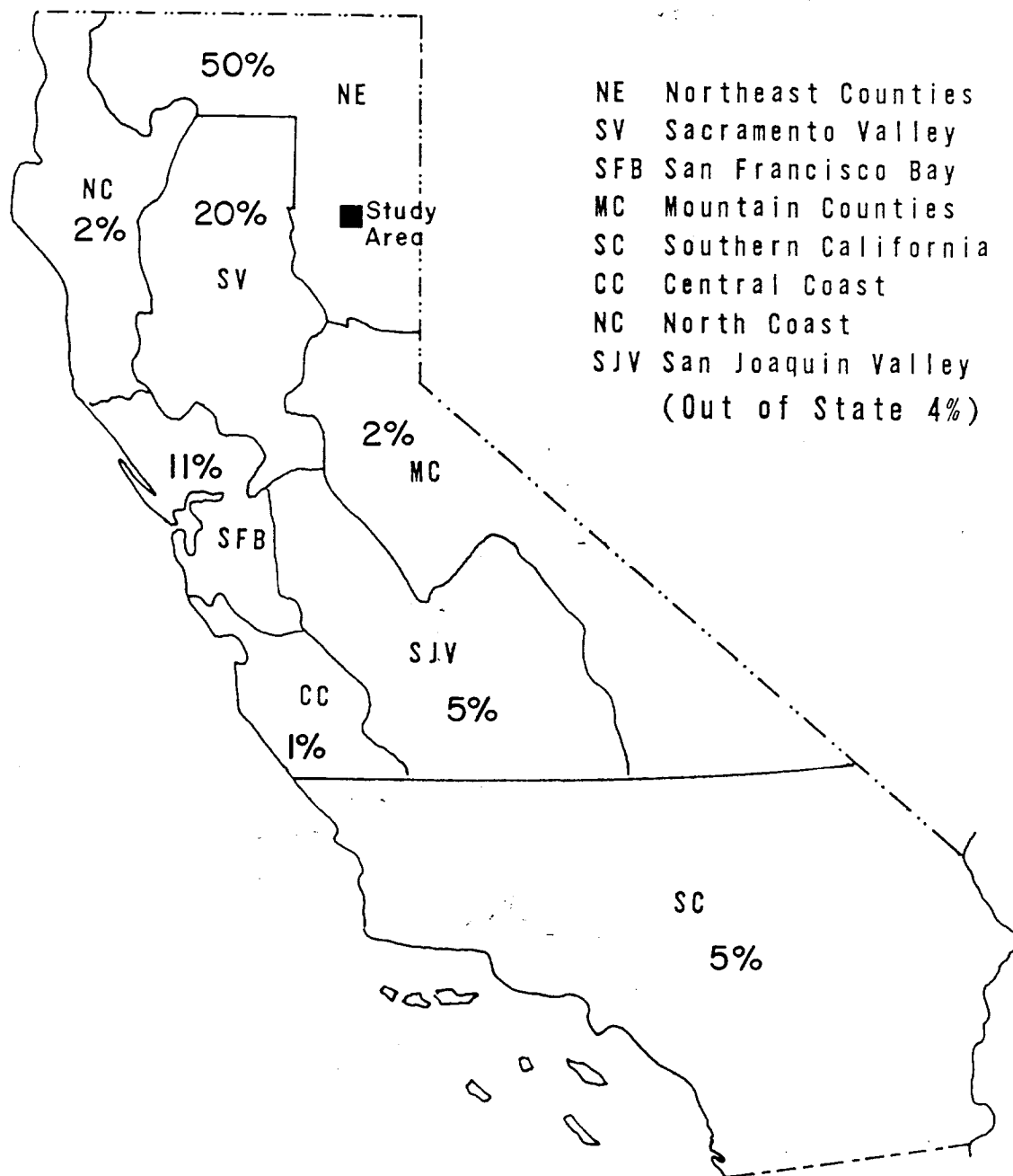


Figure I- Antelope Reservoir Angler Origin by County Groups
1986

TABLE 4

SUMMARY OF CATCH PER HOUR AT ANTELOPE LAKE, 1978-1986

<u>Year</u>	<u>Shore Anglers</u>			<u>Boat Anglers</u>			<u>Source of Data</u>
	<u>Hours</u> <u>Censused</u>	<u>RT*</u> <u>C/H</u>	<u>BB*</u> <u>C/H</u>	<u>Hours</u> <u>Censused</u>	<u>RT*</u> <u>C/H</u>	<u>BB*</u> <u>C/H</u>	
1986	786	0.08	0.25	281	0.14	0.16	
1984	239	0.36	0.24	433	0.44	0.04	(3)
1983	643	0.16	0.40	389	0.38	0.05	(2)
1980	2,005	0.32	0.16	277	0.61	0.01	(6)
1979	5,510	0.28	0.09	321	0.55	0.03	(4)
1978	2,076	0.18	0.01	277	0.33	0.00	(5)
1977	114	1.05	0.00	48	0.50	0.00	(1)

* RT C/H - rainbow trout catch per hour

* BB C/H - brown bullhead catch per hour

TABLE 5

MEAN LENGTH OF FISH CAUGHT AT ANTELOPE LAKE, 1978-1986

<u>Year</u>	<u>Rainbow Trout</u>		<u>Brown Bullhead</u>		<u>Source of Data</u>
	<u>cm</u>	<u>in</u>	<u>cm</u>	<u>in</u>	
1986	30.9	12.1	22.4	8.7	
1984	25.1	9.9	19.5	7.8	(3)
1983	23.4	9.2	18.3	7.2	(2)
1980	23.0	9.0	19.5	7.8	(6)
1979	26.0	10.2	18.5	7.4	(4)
1978	30.0	11.8	16.5	6.5	(5)
1977	23.1	9.1	-	-	(1)

TABLE 6

STOCKING RECORD
ANTELOPE RESERVOIR, 1985 AND 1986

1985:	Catchable rainbow trout	37,015
	Catchable brown trout	<u>6,000</u>
	Total	43,015
1986:	Catchable rainbow trout	31,000

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- (1) Flint, Richard A. 1978. "Antelope Lake, 1977 Creel Census". Department of Fish and Game memorandum dated January 18, 1978. 3 pp.
- (2) _____. 1984. "Antelope Lake, 1983 Creel Census". Department of Fish and Game, Region 2, memorandum dated March 20, 1984. 4 pp.
- (3) _____. 1985. "Antelope Lake, 1984 Management Report". Department of Fish and Game, Region 2, memorandum dated May 7, 1985. 5 pp.
- (4) Haines, Sharon L. 1980. "Estimated Fishing Use and Catch at Antelope Reservoir, Plumas County, 1979". Department of Water Resources, Northern District, Technical Information Report No. 80-2. 24 pp.
- (5) Hinton, Ralph. 1979. "Antelope Lake, Creel Census, 1978". Department of Water Resources memorandum to Jim Ryan, Region 2, Department of Fish and Game, dated March 22, 1979. 7 pp.
- (6) _____. 1981. "Antelope Lake Creek Census, 1980". Department of Water Resources memorandum to Jim Ryan, Region 2, Department of Fish and Game, dated January 7, 1981. 11 pp.

Appendix I

Length Frequency of Censused
Rainbow Trout, Antelope Reservoir,
1986

